AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning on page 1, line 4, with the following amended paragraph:

~~This application~~ The present application is a divisional of U.S. Patent Application Serial No. 10/301,261 filed November 21, 2002, to Torvik et al. of the same title, which claims the priority of United States Provisional Patent Application ~~serial number~~ Serial No. 60/333,258, filed on November 21, 2001, entitled BIPOLAR TRANSISTOR CONTAINING AT LEAST ONE SILICON CARBIDE LAYER, assigned to Astralux, Inc., each of which is incorporated herein by reference.

Please replace the paragraph beginning on page 1, line 8, with the following amended paragraph:

Non-provisional United States Patent Application ~~serial number~~ Serial No. 10/273,041, filed October 10, 2002, entitled DOUBLE HETEROJUNCTION LIGHT EMITTING DIODES AND LASER DIODES HAVING QUANTUM DOT SILICON CARBIDE EMITTERS, assigned to Astralux, Inc., incorporated herein by reference, provides for the fabrication of silicon-based light emitting diodes using nano-patterning and direct-wafer-bonding.

Please replace the paragraph beginning at page 3, line 20, with the following amended paragraph:

HBT 10 includes (1) a first Si n-type emitter layer 11 and its contact layer 12, (2) a second Si n-type emitter layer 13 and its contact layer 14, (3) a p-type Si base layer 15 and its three contact layers 16, 17, and 18, (4) an n-type SiC collector layer 19, and (5) a ~~p-type~~ n-type SiC sub-collector layer 20 having a contact layer 21, wherein sub-collector layer 20 may be more heavily doped than collector layer 19, thus improving the ohmic contact to the collector layer 19.

Please replace the paragraph beginning on page 5, line 3, with the following amended paragraph:

The ~~n-emitter/p-base/n~~ n-emitter/p-base/n-collector structure is preferred as this structure is expected to have superior transport properties, due to a higher electron-mobility than hole-mobility in Si and SiC.

Please replace the paragraph beginning on page 6, line 14, with the following amended paragraph:

FIG. 2's DHBT 50 can also involve using a SiGe alloy to form the base/emitter layers of an emitter/base heterojunction combination that is direct-wafer-bonded to SiC collector 51. The advantage of this FIG. 2 structure is similar to that above-described. SiGe is a binary semiconductor in which the bandgap depends upon the alloy composition.

Please replace the paragraph beginning on page 6, line 21, with the following amended paragraph:

Direct-wafer-bonding using both polarities of SiC (i.e., Si-Si and Si-C), and using [[SiC]] Si wafers cut on or 3.5 degrees or 8 degrees off the (0001) axis is within the spirit and scope of this invention. Various SiC polytypes (4H, 6H, 3C, 15R.....) can also be used. The [[Sic]]SiC should be of either (100) or (111) crystal orientation.

Please replace the paragraph beginning on page 7, line 16, with the following amended paragraph:

In a non-limiting example of the invention, direct-wafer-bonding was accomplished by applying a pressure of up to about 600 psi and annealed for up to about 60 min at between 500 degrees C and 1000 degrees C in both inert (nitrogen and argon) and reducing (forming gases)

atmospheres in order to solidify the direct-wafer-bond. When fabricating HBTs using Si and SiGe it is important that the annealing temperature stay below 700 degrees C to minimize dopant diffusion. Annealing at higher temperatures might be possible using rapid thermal processing by reducing the annealing duration.